



A Review On Drug Abuse And Drug Addiction

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ABSTRACT

Drug addiction affects both brain and behavior. It has multifaceted impacts on the patients' body, mind, and nervous system. Drug with psychologically active is used to induce consciousness. This can be modifying the perceptions, feelings, and emotions of the user. When a psychological active drug intake to the body, it induces an intoxicating effect. The psychological effects of drug addiction come from the reason the user is addicted to drugs, as well as the changes that take place in the brain once a person becomes a drug addict. Initially, many people start using drugs to cope with stress or pain an effect of drug addiction is creation of a cycle where anytime the user encounters stress or pain, they feel the need to use the drug. This is one of the psychological effects of drug addiction involved in "craving" of the drug. Various Medicinal Plants used for Addiction Treatment

Keywords: Drug addiction, Drug abuse, psychoactive substances, Alcohol, Cannabis, Opiate, Dopamine.

INTRODUCTION

Drug addiction affects both brain and behavior. It has multifaceted impacts on the patients' body, mind, and nervous system. There are different types of drugs that cause addiction as marijuana, opium, cocaine, heroin, meth and pain medications. Drug misuse is defined as the use of a substance for a purpose not consistent with legal or medical impact on health or functioning and may take the form of drug dependence, or be part of a wider spectrum of problematic or harmful behavior.

Drug addiction also known as substance use disorder ,is a chronic disease characterized by the compulsive use of a substance despite harmful consequences .It involves an inability to stop using the drug ,a need for increasing amounts of the substance to achieve the same effect [tolerance] ,and withdrawal symptoms when not using the drug. Drug addiction affects brain function and behavior leading to a loss of control over drug use.

A drug is any substance (other than food that provides nutritional support) that, when inhaled, injected, smoked, consumed, absorbed via a patch on the skin, or dissolved under the tongue causes a temporary physiological (and often psychological) change in the body^A

TYPES OF DRUGS

1. Stimulants
2. Depressants
3. Opioids (Morphine, Heroin, Oxycodone etc)
4. Hallucinogens (Lysergic Acid Diethylamide [LSD] Phenylcyclidines)
5. Inhalants (Solvents, Ether etc)
6. Cannabis (Marijuana)
7. Cocaine

1. STIMULANTS

Stimulants speed up the nervous system. Stimulants or “uppers” impact the body’s central nervous system (CNS), causing the user to feel as if they are “speeding up.” These drugs increase the user’s level of alertness, pumping up heart rate, blood pressure, breathing and blood glucose levels. Stimulants often come in pill form but are also consumed via snorting or even as food and drink. For example, caffeine is found in many beverages, and cocaine is a snorted powder.

Risks of Stimulant Abuse

When abused, stimulants can cause a variety of undesirable consequences. These effects can include:

1. Anxiety
2. Paranoia
3. Psychosis
4. High body temperature^B

2. OPIOIDS

Among the most addictive types of drugs, opioids are powerful painkillers that produce a sense of euphoria. They are extremely habit-forming, and it may only take a couple of weeks to become physically addicted to these types of drugs. In some rare instances, studies have demonstrated that it is possible to become addicted after just one dose of an opioid. Opioids can be smoked, eaten, drunk, injected or taken as pills. Examples of opioids include:

- Heroin, Morphine, Hydrocodone, Opium

Risks of Opioid Abuse

Opioid abuse can devastate a person’s life. Unfortunately, when someone decides to stop using opioids they may suffer tremendously.

- Nausea and vomiting, Diarrhea, Anxiety, Inability to sleep^B

3. DEPRESSANTS:

Depressants slow down the nervous system. Like stimulants, depressants also impact the body's CNS but with the opposite effect, making users feel as if things are "slowing down." Thus, they are often called "downers" on the street.

Examples of depressants include:

- Barbiturates: Phenobarbital, Pentobarbital
- Benzodiazepines: Rohypnol, Xanax, Valium
- Alcohol

Alcohol as a Depressant: Alcohol acts as a depressant, making it a popular choice for people who need or want to relax. Although drinking is often associated with immediate bursts of energy, the person's vital short term, including functions inevitably slow down. This slowing down can lead to slurred speech, altered judgment and unsteady movement. Overdosing on alcohol can cause severe toxicity and even death.

Tobacco as a Depressant: The active ingredient in tobacco is nicotine, a chemical that acts as both a stimulant and a depressant. Tobacco gives users a minor, immediate rush, followed by a feeling of relaxation. Nicotine is one of the most addictive substances available on the market and is dangerous to even try.

Risks of Depressant Abuse

Depressants can be useful when used properly, but depressant abuse can cause a host of issues in both the long and:

- Confusion, Extreme sleepiness, Slowed heart rate, Difficulty speaking^B

4. HALLUCINOGENS

Hallucinogens are a class of drugs that alter a person's perception of reality. They work by disrupting brain activity, affecting mood, sensory perception and muscle control. They can be made synthetically or found naturally. Examples of hallucinogens includes:

- Psilocybin (mushrooms), Peyote (mescaline), LSD (acid)

Risks of Hallucinogen Abuse

Hallucinogen abuse can have devastating effects that can last a lifetime:

- Hallucinogen Persisting Perception Disorder, also known as flashbacks
- Fear
- Distorted cognition
- Paranoia
- Psychosis^C

5. INHALANTS

Mostly made up of everyday household items, these drugs cause brief feelings of euphoria. As the name suggests, inhalants are always inhaled as gases or fumes. The “highs” slightly differ between inhalants, but most people who abuse inhalants are willing to huff whatever substance they can get.

Examples of inhalants

- Nitrous oxide, Aerosol sprays, Room deodorizers

Risks of Inhalant Abuse

Inhalant abuse can have devastating effects, both immediate and in the long run:

- Loss of smell, Brain damage, Nosebleeds, Weakness, Euphoria, Increased heart rate^C

6. CANNABIS

Most commonly recognized as marijuana, cannabis acts like a hallucinogen but also produces depressant-like effects. It is a Schedule I drug (i.e., it has a high potential for addiction) but has increasing medicinal uses in the United States.

Examples of cannabis include:

- Marijuana leaves, Hashish, Hash oil, Cannabis-based medicines, such as Sativex

Risks of Cannabis Abuse

Despite being one of the most widely used types of drugs, cannabis abuse can destroy lives and have both short- and long-term impacts, including:

- Lowered immunity to illness
- Depression
- Chronic anxiety
- Reduced sperm count in men
- Sedation^D

7. COCAINE:

Cocaine is an alkaloid which is found in significant quantities in leaves of two species of coca shrub- *Erythroxylum coca* and *Erythroxylum novogranatense*. Cocaine dependence is a chronic, complicated and destructive illness with somatic, psychological, socioeconomic, and legal complications that is often difficult to treat. In case of cocaine, it directly increases synaptic dopamine levels in this meso-cortico-limbic system by blocking the transporter that pumps dopamine out of the synapse into the presynaptic nerve terminal which

significantly contributes to the reinforcing effects of cocaine. It also affects areas of the brain related to motor function, inhibition, memory, concentration, problem-solving, learning, planning, attention, and discrimination.

BARBITURATES: Barbiturates are basically derived from barbituric acid and are used as sleeping tablets, anesthetics and anti-epileptic drugs. The drug is highly abused widely because of the seductiveness'. These acts as a CNS depressant and also have cumulative effects and hence its metabolism and excretion are very slow. It binds to specific sites on GABA sensitive ion channels which inhibits neurotransmitters in CNS. When they are used continuously the development of tolerance and on abrupt discontinuation of the drug, withdrawal symptoms may appear such as motor incoordination, impaired thinking, and lack of emotional control, aggressive behavior, and staggering.^D

CAUSES OF DRUG ADDICTION:

A. Environmental Causes

B. Genetic causes

C. Development

D. Traumatic causes

E. Mental Health causes

(A) Environmental causes: A person's environment plays a large role in the development of drug addiction. Some people turn to drug use to cope with problems in their real lives. Being around drugs and being exposed to addicts can also lead to drug addiction. Abuse of drugs among friends and peers

- Lack of social support
- Troubled relationships
- Stress in life^E

(B) Genetic causes: Not everyone who tries a drug will become addicted. Researchers have determined that some people have a genetic predisposition to becoming addicted to drugs. For example, the dopamine D2 receptor A1 gene is more common in alcoholics and cocaine abusers than in the general public. Researchers have also found other genes associated with an increased or decreased susceptibility to drug (or alcohol) addiction. CYP2A6 is more common in non-smokers and causes nausea and dizziness after smoking; people who have two copies of the ALDH*2 gene variation are less likely to become alcoholics.^E

(C) Developmental Causes: Events during development can increase one's risk of becoming addicted. Confused parental environments, childhood experiences, and early drug use can all have an influence.. Drug use changes the way the brain functions and makes it more likely that a person will become addicted; drug use makes it difficult to make clear decisions, control your behavior, and feel OK without the drug. Adolescents also lack the appropriate decisionmaking skills and are more prone to risk-taking behavior like drug use.^E

(D) Traumatic Causes: Drug use and abuse may also result from traumatic experiences. Sexual assault, a history of abuse, natural disasters, or post-traumatic stress disorder can all trigger drug or alcohol addiction.^E

(E) Mental Health Causes: Drug addiction can also be caused by using drugs to mask other mental problems. For example, depressed people frequently use drugs to escape their sad feelings. Schizophrenics find that some street drugs can control their hallucinations. In some cases, the drug use itself may lead to mental problems.^E

(F) Other psychological causes

- Mental disorder such as depression
- Lack of friends in school or any social setting
- Huge academic pressure
- Traumatic events^E

CAUSES OF DRUG ABUSE

1. Social factors:

- Peer pressure (One of the most important causes)
- Easy availability
- Conflicts (usually intrafamilial)
- Social attitude
- Celebrations

2. Psychological Factor

- As a novelty
- Poor control
- Poor stress management
- Childhood loss or trauma
- To escape reality
- Psychological distress

3. Biological Factor

- Family history, genetic predisposition
- Pre-existing psychiatric or personality disorder, or a medical disorder
- Withdrawal effects and craving
- Biochemical factors^F

EFFECTS OF DRUG ADDICTION:

Drugs are chemicals which affect the brain and body. Different drugs have different compounds and affect the human body differently. Effects of drug abuse also depend on the way you consume it. There are few ways a drug can be consumed, like injection, inhalation and ingestion.

Effect of Drug Addiction on the Brain:

- Altered brain functions
- Loss of rational decision-making
- Loss of self-control

Effect of Drug Addiction on the Body

Drug abuse damages the immune system and makes you vulnerable to infections.

Drugs cause nausea, abdominal pain and vomiting.

Some drugs increase the risk of liver failure due to the excessive strain on the liver.^G

Effects- 1.Short term effect

2. Long term effect

1) Short term effect- Every drug has a wide range of short and long term effects direct and indirect. These effects usually depend on specific types of drug use. Short term effects range from wakefulness, change in appetite, heart rate blood pressure or mood. Heart attack, stroke psychosis overdose also cause death.

2) Long term effect: Cancer, HIV, Cardiovascular diseases, Respiratory problems, gastrointestinal effect, Kidney damage, Liver damage, mental health effect.^G

Social Effects

Losing job, financial trouble, Sexual abuse, Accidents and injuries

1) **Legal drugs** - drugs which can be legally sold, used or possessed with restriction for example alcohol, tobacco, caffeine, volatile substance, OTC (over the counter) drug and prescription medicine. Top 8 legal drugs

- Alcohol, nicotine, Benzodiazepines, Opioid, cough syrup

2) **Illegal drug** - Illegal drugs are those drugs that can be sold or distribution of which is unlawful as per the controlled substance act.

Cannabis, Barbiturates, Tobacco, Heroin.^H

COMPLICATIONS OF DRUG ABUSE:

1. **Medical complications:** Malnutrition, pulmonary embolism, dental decay, self-neglect, thrombophlebitis, septicemia/cellulitis, psychiatric complications, and even death

2. **Social complications:** Social isolation or aloofness, antisocial behavior, violence, crime or theft.^I

COMPLICATIONS OF DRUG ADDICTION:

1. Physical Complication:

- **Injury:** This can occur while taking the drug depending on methods like injecting heroin using a needle can lead to muscle and skin damage at the site of injection.

- **Overdose:** Taking too much drug at the same time can cause overdose. Overdose can also occur with pharmaceuticals which may result in death.

- **Health:** There is rise in bp and heart rate due to some substance.

2. Psychological complication:

- **Depression** - Use of a number of various substances leads to elevated level of depression, restlessness, anxiety, shame and guilt can also result from prolonged drug dependence

- **Loneliness** - People taking drugs or addicted people like to live alone.

3. Personal complication

- Finances**- The cost of regularly purchasing substances is preserving behavioral impulses
- Crime**- Many psychoactive substances are illicit and even possessing them can put a person in jail. People May also resort to crime to fund drug misuse, especially drug addiction that leads to unemployment^J

TREATMENT OF DRUG ABUSE AND DRUG ADDICTION

There is no cure for drug addiction. But there are some treatment procedures which can help you to overcome addiction and stay clean. Once you recognise the problem, there is a wide range of treatments that can be possible. Most people go through a combination of different types of treatments.

Detoxification

Detoxification is typically the first step of treatment. The goal is to stop the drug, while managing withdrawal symptoms. While in detoxification, it is natural to see withdrawal symptoms. Withdrawal symptoms are different for different kinds of drugs and require different approaches. It is best to reduce the dose of the drug gradually or have a medication that helps mitigate withdrawal symptoms.

Behavioural Therapy

Behavioural therapy is the standard treatment for drug addiction after detoxification. It can be done by one-on-one sessions, in a group, or family basis, depending on the requirements. Here are the different types of behavioural therapies.^K

Cognitive-behavioural therapy (CBT)

It helps the individual to recognise and change thinking towards drug abuse.

Multidimensional family therapy (MDFT)

This kind of treatment is designed to help the family, particularly in addressing youth problems and disorders.

Motivational interviewing (MI)

It helps to encourage the individual to resolve ambivalent feelings and find internal motivation for change.^L

CONCLUSION: Drug use and addiction cause a lot of diseases and disabilities in the world. Recent advances in neuroscience may help improve policies to reduce the harm that the use of tobacco, alcohol and other psychoactive drugs impose on society.

Since, the effects of drugs on health vary greatly depending on the type of drug and on the way it is used, the public health response to drug use should be proportional to the healthrelated harm it causes.

Effective public health policies and programmes that address drug dependence and other forms of harmful drug use could significantly reduce the overall health burden of drug use. Drug dependence is a medical disorder, not a lack of willpower or strength of character.

Drug dependence and mental illnesses often affect the same individuals. Therefore, it would be useful to integrate research, assessments, and treatments for both disorders.

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